

REMARKS/ARGUMENTS

Reconsideration of the above-identified application in view of the present amendment is respectfully requested.

Claims 1, 2, 4, 6, 9-13, 15, 16, and 18-21 are pending.

Claims 1 and 4 are amended, and claims 18-21 are added.

Claims 1, 2, 4, 12 and 13 stand rejected as being anticipated by Yamada, JP 05-238394. Claims 3, 6, and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada in view of RD document no. 333099 (RD '099). Claim 1 is amended to recite a sensor for sensing the vibration parameter of the steering wheel and providing a variable output signal depending upon the value of the vibration parameter. The electrical control unit is coupled with the damping unit to actuate the damping units. The control unit, after actuation of the damping unit, in response to the variable output signal of the sensor changing mechanical vibration characteristics of the device such that different vibration frequencies can be damped based on the present value of the vibration parameter of the steering wheel. Neither Yamada nor RD '099 nor any of the other prior art disclose or suggest this limitation. In fact, neither Yamada nor RD '099 nor any of the other prior art disclose or suggest a sensor for sensing a vibration parameter of the steering wheel and providing a variable output signal depending upon the value-of the vibration parameter.

By contrast, Yamada discloses a damping device that only can be switched ON when the engine is idling and switched off

when the vehicle is moving. The vibration frequency of the steering damper 7 with the damper mass 8 and the rubber foot 10 is not variable and thus, the steering damper 7 cannot be used to damp different vibrations parameters. The RD '099 reference discloses inputs to the controller that consist of the vehicles' speed and also the degree and rate of the turn just performed. RD '099 does not disclose a sensor for sensing a vibration parameter of the steering wheel.

Moreover, it would not be obvious to modify Yamada in view of RD '099. To establish a claim of obviousness, there must be some suggestion or motivation to a person having ordinary skill in the art to modify the reference or to combine reference teachings (MPEP §706.02(j)). There is no suggestion or motivation to combine the teachings of Yamada and RD '099. Therefore, claim 1 is allowable.

Claim 2, which depends from claim 1, should be allowed for the same reasons as claim 1 and also for the additional feature that the damping unit is designed such that the mechanical vibration characteristics of the device can be altered by supplying electrical energy to the damping unit. Neither the Yamada nor the RD '099 reference nor any of the other prior art references disclose or suggest this feature and including the limitations of claim 1. Thus, claim 2 is allowable.

Currently amended claim 4, which depends from claim 2, should be allowed for the same reasons as claim 2 and also for the additional feature that the damping unit comprises a material, wherein the mechanical vibration characteristics of

the material alter with the supply of electrical energy to the damping means. Neither the Yamada nor the RD '099 reference nor any of the other prior art references disclose or suggest this feature and including the limitations of claim 2.

Therefore, claim 4 is allowable.

Claim 6, which depends from claim 4, should be allowed for the same reason as claim 4 and also for the additional feature that the material is an electrorheological fluid. Neither the Yamada nor the RD '099 reference nor any of the other prior art references disclose or suggest this feature and including the limitations of claim 4. Therefore, claim 6 is allowable.

Claim 12, which depends from claim 1, should be allowed for the same reasons as claim 1 and also for the additional feature that the damping unit includes a hollow body made of an elastic material. Neither the Yamada nor the RD '099 reference nor any of the other prior art references disclose or suggest this feature and including the limitations of claim 1. Therefore, claim 12 is allowable.

Claim 13, which depends from claim 12, should be allowed for the same reasons as claim 12, and also for the additional feature that the hollow body is ring-shaped. Neither the Yamada nor the RD '099 reference nor any of the other prior art references disclose or suggest this feature and including the limitations of claim 12. Therefore, claim 13 is allowable.

Claim 15, which depends from claim 12, should be allowed for the same reasons as claim 12 and also for the additional

feature that the hollow body contains one of an electrorheological and magnetorheological fluid. Neither the Yamada nor the RD '099 reference nor any of the other prior art references disclose or suggest this feature and including the limitations of claim 12. Therefore, claim 15 is allowable.

Claim 9 stands rejected as being anticipated by DE20105733 (DE '733). Applicant, respectfully, traverses this rejection. First, the present invention has a priority date based on a German application filed on March 8, 2001, which is earlier than the German filing date, April 2, 2001, of the DE '733 reference. Further, the DE '733 reference discloses a steering wheel containing a gas bag module that has a gas generator 12 which is mounted by means of an elastic bearing element 14 so as to be neutralized with regard to vibrations with respect to a module housing. The elastic bearing element is electrically conductive to allow grounding of the gas generator via an earth lead in order to prevent the gas generator from igniting at an inopportune time due to interference pulses or accumulated electrical charges (see Col. 1, paragraphs 3-5, of US published application no. 2002/0140212, which corresponds to DE '733).

DE '733 does not disclose an electrical control unit coupled with the damping unit, wherein the electrical control unit is able to alter mechanical vibration characteristics of the damping means such that different vibration frequencies can be damped. In fact, DE '733 does not disclose any electrical control unit coupled with the damping unit at all.

None of the other prior art disclose or suggest all of the limitations of claim 9. Therefore, claim 9 is allowable.

Claim 10, which depends from claim 9, should be allowed for the same reasons as claim 9 and also for the additional feature that the hollow damping body is made of an elastic material. Neither DE '733 nor any of the other prior art disclose or suggest this feature and including the limitations of claim 9. Therefore, claim 10 is allowable.

Claim 11, which depends from claim 9, should be allowed for the same reason as claim 9 and also for the additional feature that the hollow damping body is ring-shaped. Neither DE '733 nor any of the other prior art disclose or suggest this feature and including the limitations of claim 9. Therefore, claim 11 is allowable.

Claim 19, which depends from claim 9, should be allowed for the same reasons as claim 9 and also for the additional features recited therein. In particular, claim 19 recites a sensor for sensing the vibration frequency of the steering wheel and providing a variable output signal depending upon the vibration frequency. The control unit, after actuation of the damping unit, in response to the variable output signal of the sensor changing mechanical vibration characteristics of the device such that different vibration frequencies can be damped based on the present vibration frequency of the steering wheel. Neither DE '733 nor any of the other prior art disclose or suggest these features and including the limitations of claim 9. Therefore, claim 19 is allowable.

Claim 20, which depends from claim 19, should be allowed for the same reasons as claim 19 and also for the additional feature that the hollow damping body is made of an elastic material. Neither DE '733 nor any of the other prior art disclose or suggest this feature and including the limitations of claim 19. Therefore, claim 20 is allowable.

Claim 21, which depends from claim 19, should be allowed for the same reasons as claim 19 and for the additional feature that the hollow damping body is ring-shaped. Neither DE '733 nor any of the other prior art disclose or suggest this feature and including the limitations of claim 19. Therefore, claim 21 is allowable.

Previously allowed claim 16 now stands rejected under 35 U.S.C. 103(a) as being unpatentable over DE20104733 (DE '733) in view of RD document no. 333099 (RD '099). Applicant, respectfully, traverses this rejection.

First, neither DE '733 nor RD '099 disclose or suggest a damping device that can damp different vibration frequencies. Further, regarding the DE '733 reference, the present invention has a priority date based on a German application filed on March 8, 2001, which is earlier than the German filing date, April 2, 2001, of the DE '733 reference. Also, the DE '733 reference discloses a steering wheel containing a gas bag module that has a gas generator 12 which is mounted by means of an elastic bearing element 14 so as to be neutralized with regard to vibrations with respect to a module housing. The elastic bearing element is electrically conductive to allow grounding of the gas generator via an earth lead in

order to prevent the gas generator from igniting at an inopportune time due to interference pulses or accumulated electrical charges (see Col. 1, paragraphs 3-5, of US published application no. 2002/0140212, which corresponds to DE '733).

DE '733 does not disclose an electrical control unit coupled with the damping means, wherein the electrical control unit is able to alter mechanical vibration characteristics of the damping means such that different vibration frequencies can be damped. In fact, DE '733 does not disclose any electrical control unit coupled with the damping means at all.

Moreover, it would not be obvious to modify DE '733 in view of RD '099. To establish a claim of obviousness, there must be some suggestion or motivation to a person having ordinary skill in the art to modify the reference or to combine reference teachings (MPEP §706.02(j)). Further, if the proposed combination "would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious." (MPEP §2143.01).

There is no suggestion or motivation to combine the teachings of DE '733 and RD '099. In fact, the proposed combination would change the principle operation of DE'733 as modified. In particular, using the torsion damper of RD '099 would interfere with the normal function of the steering wheel, which is to transmit directional changes by rotational movement. Also, the complex damping mechanism of RD '099 with its electrodes and its fluid tight space for the

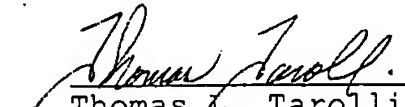
electrorheological fluid would not be accommodated by the steering wheel of DE '733. In addition, the gas bag module housing 16, as incorrectly determined by the examiner to be the hollow damping body, contains the folded gas bag 110 and the gas generator 12. Filling this housing with magnetorheological or electrorheological fluid would disrupt the operation of the deployment of the gas bag out of the gas bag module housing 16. Therefore, in view of the above mentioned reasons, claim 16 is allowable.

Claim 18, which depends from claim 16, should be allowed for the same reasons as claim 16 and also for the additional features recited therein. In particular, claim 18 recites a sensor for sensing the vibration frequency of the steering wheel and providing a variable output signal depending upon the vibration frequency. The control unit, after actuation of the damping unit, in response to the variable output signal of the sensor changing mechanical vibration characteristics of the device such that different vibration frequencies can be damped based on the present vibration frequency of the steering wheel. Neither DE '733 nor RD '099 nor any of the other prior art disclose or suggest these features and including the limitations of claim 16. Therefore, claim 18 is allowable.

In view of the foregoing, allowance of the above-identified application is respectfully requested.

Please charge any deficiency or credit any overpayment in
the fees for this amendment to our Deposit Account
No. 20-0090.

Respectfully submitted,


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